

**Amendments to the Abstract:**

A probe located in an area to be measured has an acoustic stimulator, ~~such as~~ (e.g., a loudspeaker[[,]] and a microphone). ~~The probe is located in an area to be measured.~~ The stimulator sends acoustic ~~Acoustic~~ signals ~~are sent by the stimulator and received by to~~ the microphone. ~~The~~ where the signals ~~received by the microphone~~ are transformed into electrical signals and transferred to an analysis unit. Using a defined stimulation followed by a two-port chain transfer matrix connected to an impedance as a model, the voltage ratio between the stimulation and the impedance is described as a dimensionless transfer function ~~in the form~~ of a complex function of the stimulation frequency. A series of acoustic calibration signals are generated by ~~a number of~~ known acoustic impedances covering different calibration scopes using ~~by means of~~ the defined stimulation. The calibration signals are recorded and the electric values are merged with the respective voltage values of the stimulation for evaluation ~~of the results~~ of the respective transfer functions. ~~The transfer functions of the calibration signals~~ which are merged together into an over-determined linear system of equations. ~~The system of equations is solved and two coefficients are calculated.~~ The impedance ~~to be calculated~~ is determined by evaluating the transfer functions under the defined stimulation by use of the coefficients determined by the calibration.

**Attachment:** Replacement Sheet (clean-copy of abstract)